


VPA PERMIT FACT SHEET

This document gives pertinent information concerning the modification of the VPA permit listed below, which authorizes the land application of biosolids and water treatment plant (WTP) residuals. This proposed permit action consists of modifying the permit with revisions to the permit requirements, as needed, due to changes in applicable laws, guidance, and available technical information.

1. Permit Name and Address:
Recyc Systems, Inc. – Southampton County
PO Box 562, Remington, VA 22734
County: Southampton
2. VPA Permit No. VPA01078
3. Owner: Recyc Systems, Inc.
Contact Name: Susan Trumbo
Title: Vice President – Technical Manager
Telephone No: (540) 547-3300
4. Permit Application Information: Staff initiated modification after promulgation of the revised VPA Permit Regulations (the biosolids related amendments to the VPA Permit Regulations (9VAC25-32-10 et seq.) and the Fees for Permits and Certificates regulations [9VAC25-20-10 et seq.]). This modification authorizing the land application of biosolids in Southampton County will only incorporate new language regarding the regulatory amendments. No land may be added at this time.
5. Pollution Management Activity Description: Land application of biosolids and WTP residuals to agricultural and silvicultural sites within Southampton County, including 59 fields, totaling 1,938.52 acres, as identified in the current VPA Permit No. VPA01078. Application rates shall be in accordance with site specific nutrient management plans (NMPs).
6. Permit Drafted By: Danielle Adams
Reviewed By: Keith Showman
Reviewed By: RE Smithson
Public Notice Date:
Public Comment Period:

August 11, 2015
August 26, 2015
September 1, 2015
September , 2015
September , 2015 to October , 2015
7. Bases for Limitations and Monitoring Requirements: Appendix A
8. Permit Changes and Bases for Special Conditions: Appendix B
9. Public Notice Information per 9 VAC 25-32-140.B: All pertinent information regarding the draft permit and application is on file at the DEQ-Tidewater Regional Office, and may be reviewed and copied by contacting R.E. Smithson at DEQ-Tidewater Regional Office, 5636 Southern Blvd., Va. Beach, VA 23462; 757-518-2106; robert.smithsonjr@deq.virginia.gov.

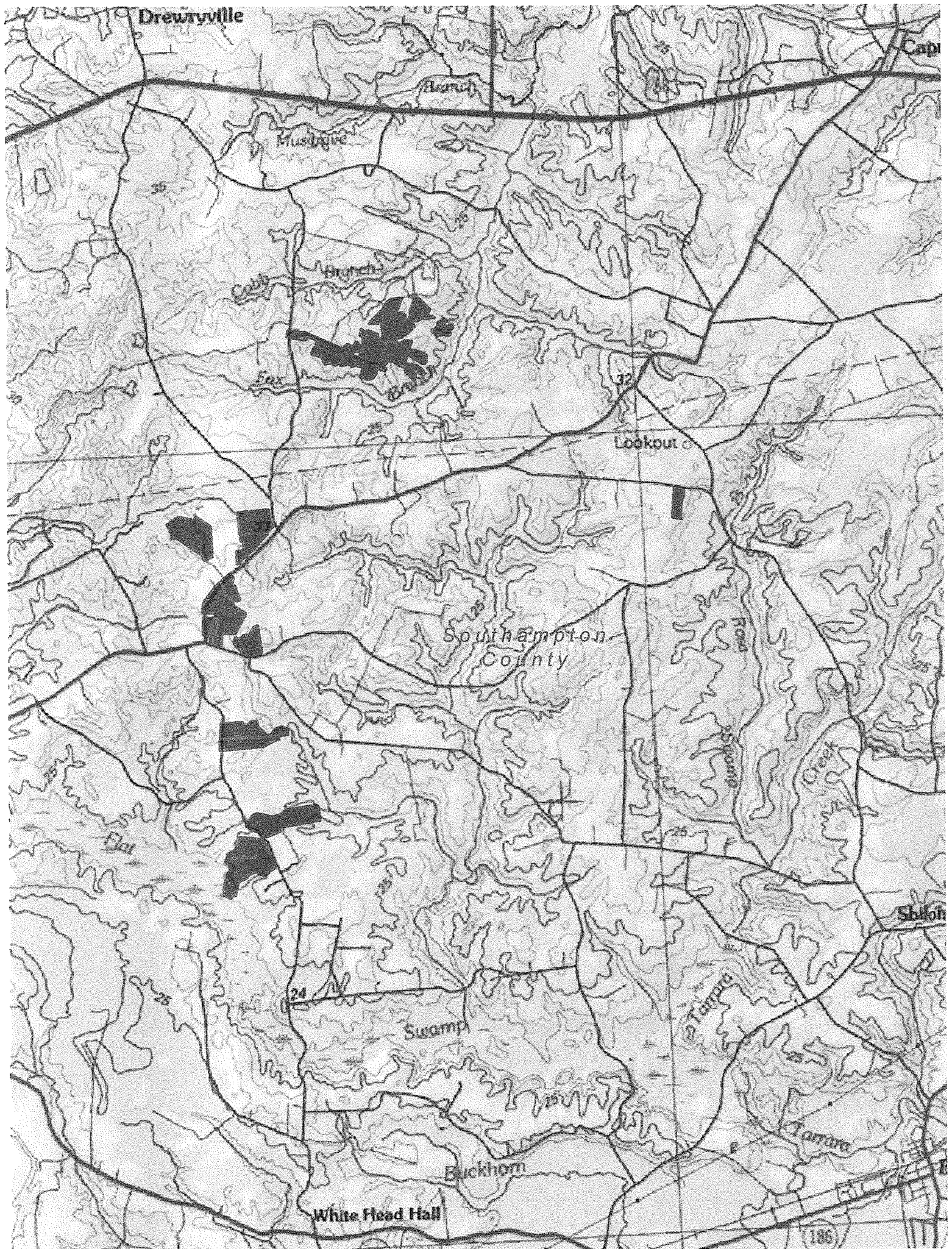
DEQ accepts comments and requests for public hearing by hand-delivery, e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The name/number of the permit for which a public hearing is requested. 2) The reason why a public hearing is requested. 3) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 4) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit. The public may review all pertinent information regarding the draft permit at the DEQ office named above or may request copies of the documents from the contact person listed above.

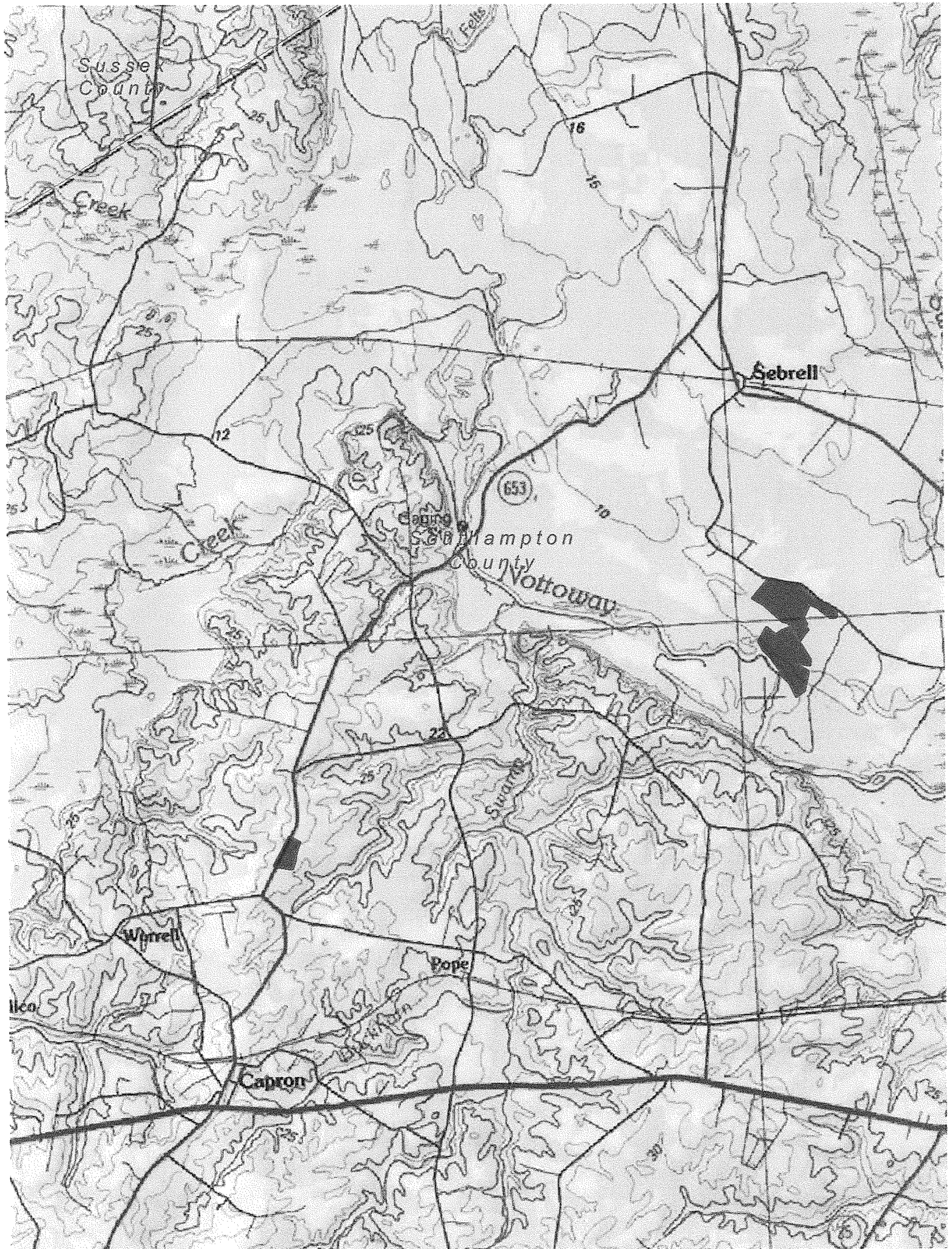
APPENDIX A

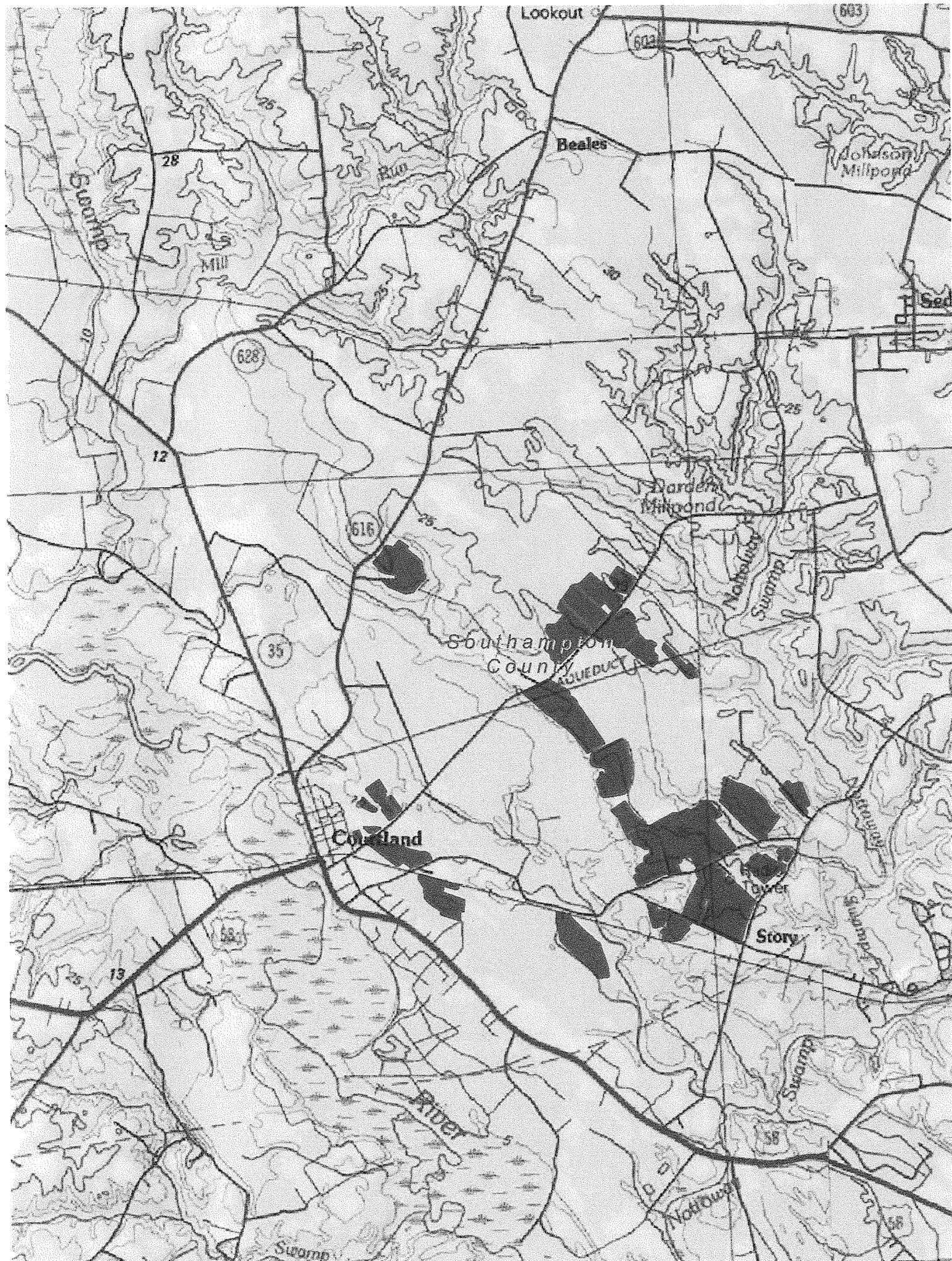
LOCATION DESCRIPTION

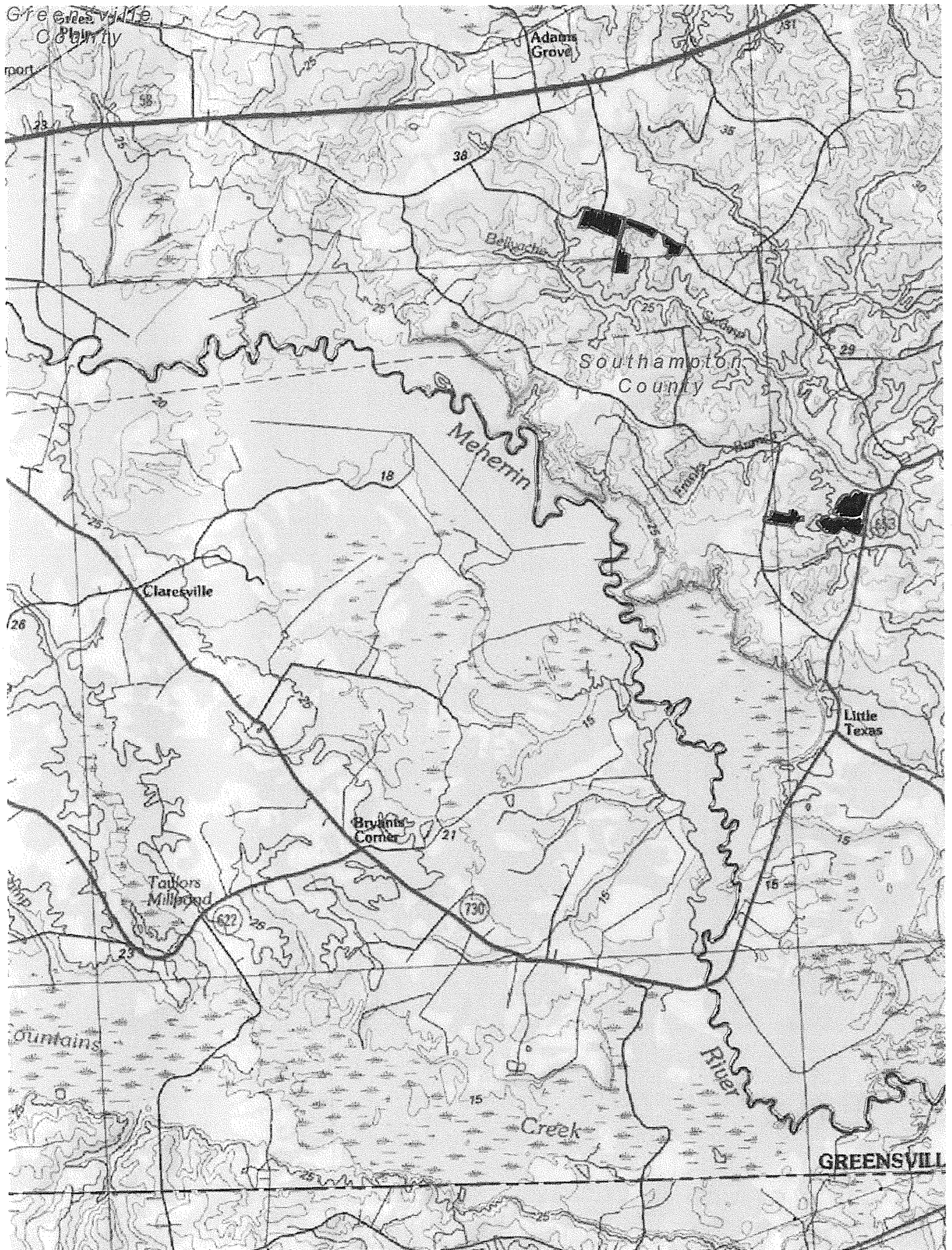
Original application: the following 6 farms are included: Flaggy Run Farms **FRF** (14 fields, 849 acres), Pope Investment Co. **PIC** (3 fields, 131 acres), Virginia Daughtrey Farm **VMD** (2 fields, 61 acres), Sue Edwards Farm **SRE** (2 fields, 65 acres), Cathie Bradshaw Farm **CSB** (1 field, 38 acres), F.T. Brown Farm **FTB** (1 field, 24 acres). These fields are identified on the following Topo Maps Courtland VA 6A, Vicksville, VA 38D)

Modified application February 2010 to add the following fields - 3 farms are included: Allen F. Edwards Farm **SOAFE** (7 fields, 177 acres), Fox Farms **SOFXF** (12 fields, 172 acres) and Carter A. Smith Farms **SOCAS** (17 fields, 402 acres). These fields are identified on the following Topo Maps : Drewryville, VA 7A, Margarettsville, VA 7D and Capron, VA 6B.









LISTING OF LAND APPLICATION SITES

Field ID	DEQ Control ID	Gross Acres
SHCSB-01	51175-00025-0000	38.86
SHFRF-01	51175-00026-0000	52.66
SHFRF-02	51175-00027-0000	73.56
SHFRF-03	51175-00028-0000	63.16
SHFRF-04	51175-00029-0000	84.76
SHFRF-05	51175-00030-0000	52.53
SHFRF-06	51175-00031-0000	10.89
SHFRF-07	51175-00032-0000	150.21
SHFRF-08	51175-00033-0000	63.52
SHFRF-09	51175-00034-0000	18.99
SHFRF-10	51175-00035-0000	38.42
SHFRF-11	51175-00036-0000	57.38
SHFRF-12	51175-00037-0000	40.22
SHFRF-13	51175-00038-0000	129.78
SHFRF-14	51175-00039-0000	26.61
SHFTB-01	51175-00040-0000	24
SHPIC-01	51175-00053-0000	43.31
SHPIC-02	51175-00054-0000	36.13
SHPIC-03	51175-00055-0000	55.08
SHSRE-01	51175-00056-0000	18.9
SHSRE-02	51175-00057-0000	46.8
SHVMD-01	51175-00058-0000	41.87
SHVMD-02	51175-00059-0000	18.98
SOAFE-01	51175-00001-0000	44.9
SOAFE-02	51175-00003-0000	17.1
SOAFE-03	51175-00002-0000	11.8
SOAFE-04	51175-00004-0000	13.2
SOAFE-05	51175-00005-0000	22.2
SOAFE-06	51175-00006-0000	40
SOAFE-07	51175-00007-0000	28.2
SOCAS-01	51175-00008-0000	56.4
SOCAS-03	51175-00009-0000	30.7
SOCAS-04	51175-00010-0000	17.3
SOCAS-05	51175-00011-0000	13.4
SOCAS-06	51175-00012-0000	28.9
SOCAS-07	51175-00013-0000	11.2
SOCAS-08	51175-00014-0000	18.5
SOCAS-09	51175-00015-0000	23.6
SOCAS-10	51175-00016-0000	3.2
SOCAS-11	51175-00017-0000	30.8
SOCAS-12	51175-00018-0000	21.9
SOCAS-13	51175-00019-0000	25.7
SOCAS-14	51175-00020-0000	23.6
SOCAS-15	51175-00021-0000	24.2
SOCAS-16	51175-00022-0000	42.4
SOCAS-19	51175-00023-0000	12.4
SOCAS-20	51175-00024-0000	18.4

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APPENDIX A

BASES FOR LIMITATIONS AND MONITORING REQUIREMENTS

Biosolids/ WTP Residuals – Metals Limitations & Monitoring

PARAMETER ⁽¹⁾	BASIS FOR LIMITS	LIMITATIONS		MONITORING REQUIREMENTS	
		Monthly Average (mg/kg) ⁽²⁾	Maximum (mg/kg) ⁽²⁾	Frequency	Sample Type
Arsenic	1	41	75	(3)	Composite
Cadmium	1	39	85	(3)	Composite
Copper	1	1,500	4,300	(3)	Composite
Lead	1	300	840	(3)	Composite
Mercury	1	17	57	(3)	Composite
Molybdenum	1	NL ⁽⁴⁾	75	(3)	Composite
Nickel	1	420	420	(3)	Composite
Selenium	1	100	100	(3)	Composite
Zinc	1	2,800	7,500	(3)	Composite
Aluminum ⁽⁵⁾	2	NL	NA	1/Year	Composite

NL = No Limit, monitoring required

- (1) All constituents are subject to cumulative pollutant loading rates (CPLR), pollutant concentrations (PC), and ceiling limitations. PC biosolids/WTP residuals contain the constituents identified above at concentrations below the monthly average specified in Part I.A.1. CPLR biosolids/WTP residuals contain the constituents identified above at concentrations above the monthly average and each sample must be below the ceiling limitations specified in Part I.A.1. If the concentration of any of these constituents in biosolids/WTP residuals from any source exceeds the monthly average concentration, then the biosolids/WTP residuals from the source are subject to CPLR rules.
- (2) All limits and criteria are expressed on a dry weight basis.
- (3) See the Frequency of Monitoring table included in this appendix.
- (4) The monthly average concentration for molybdenum is currently under study by USEPA. Research suggests that a monthly average Molybdenum concentration below 40 mg/kg may be appropriate to reduce the risk of copper deficiency in grazing animals.
- (5) All residuals generated at a WTP that uses any aluminum based coagulant are subject to aluminum monitoring and the tracking of the aluminum loading at each field on which WTP residuals are applied.

Bases for Limitations

1. VPA Permit Regulation (9VAC25-32)
2. Guidance Memorandum (GM) No. 95-002 (VPA Land Application of Water Treatment Plant Residuals)

Fact Sheet – VPA Permit No. VPA01078 – Recyc Systems, Inc - Southampton

Biosolids/ WTP Residuals – CPLR Metals Limitations & Monitoring

PARAMETERS	BASIS FOR LIMITS	LIMITATIONS		MONITORING REQUIREMENTS	
		Maximum CPLR ⁽¹⁾			
		(kg/ha) ⁽²⁾⁽³⁾	(Lbs/Ac) ⁽²⁾⁽³⁾	Frequency	Sample Type
Arsenic	1	41	36	Each Application	Calculated
Cadmium	1	39	35	Each Application	Calculated
Copper	1	1,500	1,340	Each Application	Calculated
Lead	1	300	270	Each Application	Calculated
Mercury	1	17	16	Each Application	Calculated
Molybdenum	1	NL ⁽⁴⁾	NL	Each Application	Calculated
Nickel	1	420	375	Each Application	Calculated
Selenium	1	100	89	Each Application	Calculated
Zinc	1	2,800	2,500	Each Application	Calculated
Aluminum ⁽⁵⁾	2	4,570	4,113	Each Application	Calculated

NL = No Limit, monitoring required

- (1) The CPLR is the maximum cumulative application of trace elements that can be applied to soils used for crop production. The maximum cumulative application rate is limited for all ranges of cation exchange capacity due to soil background pH in Virginia of less than 6.5 S.U. and lack of regulatory controls of soil pH adjustment after biosolids/WTP residuals application ceases.
- (2) All limits and criteria are expressed on a dry weight basis.
- (3) No person shall apply bulk biosolids/WTP residuals subject to the CPLRs identified above to agricultural land, forest, a public contact site, or a reclamation site if any of the CPLRs identified above has been reached.
- (4) The maximum cumulative application for molybdenum is currently under study by USEPA. Research suggests that for Molybdenum a cumulative pollutant loading rate below 40 kg/hectare may be appropriate to reduce the risk of copper deficiency in grazing animals.
- (5) All sites that receive residuals generated at a WTP that uses any aluminum based coagulant are subject to the tracking of aluminum loading, regardless of concentration of aluminum in the residuals.

Bases for Limitations

1. VPA Permit Regulation (9VAC25-32)
2. EPA Process Design Manual - Land Treatment of Municipal Wastewater (EPA 625/1-81-013)

Fact Sheet – VPA Permit No. VPA01078 – Recyc Systems, Inc - Southampton

Biosolids – Pathogen Reduction Requirements

BASIS FOR LIMITS	PATHOGEN REDUCTION ALTERNATIVE	PROCESS TO SIGNIFICANTLY REDUCE PATHOGENS (PSRP) OPTION	CLASS B PATHOGEN REDUCTION TREATMENT STANDARDS	MONITORING REQUIREMENTS
1,2	1	NA	Fecal coliform monitoring: <2,000,000 MPN/gm or <2,000,000 CFU/gm, geometric mean of 7 samples (9VAC25-32-675.B.2)	(1),(2)
1,2	2	1	PSRP: Aerobic Digestion: Sludge mean cell residence time from 40 days at 20°C to 60 days at 15°C (9VAC25-32-675.D.1)	(3)
1,2	2	2	PSRP: Air dry in a drying bed for three months. Ambient average daily temperature must be above 0°C for 2 of the 3 months (9VAC25-32-675.D.2)	(3)
1,2	2	3	PSRP: Anaerobic digestion for a mean cell residence time between 15 days at 35°C - 55°C up to 60 days at 20°C (9VAC25-32-675.D.3)	(3)
1,2	2	4	PSRP: Composting at 40°C or above for 5 or more days, maintaining > 55°C for 4 consecutive hours during the 5 days (9VAC25-32-675.D.4)	(3)
1,2	2	5	PSRP: Sufficient lime is added to the sewage sludge to raise the pH of the sewage sludge to 12 after two hours of contact (9VAC25-32-675.D.5)	(3)
1,2	3	PROCESS AS APPROVED	Process equivalent to PSRP: PROCESS AS APPROVED (9VAC25-32-675 B.4.)	(3)

NA = Not applicable

- (1) See the Frequency of Monitoring table included in this appendix.
- (2) Between sampling events, operating records must demonstrate that the Wastewater Treatment Plant (WWTP) is operating at a performance level known to meet pathogen reduction standards.
- (3) Process monitoring must be sufficient to demonstrate compliance with PSRP treatment requirements.

Bases for Requirements

1. VPA Permit Regulation (9VAC25-32)
2. Environmental Regulations and Technology - Control of Pathogens and Vector Attraction Reduction in Sewage Sludge (EPA/625/R-92/013)

Fact Sheet – VPA Permit No. VPA01078 – Recyc Systems, Inc - Southampton

Biosolids – Vector Attraction Reduction (VAR) Requirements

BASIS FOR LIMITS	VAR OPTION	VAR TREATMENT STANDARD	MONITORING REQUIREMENTS
1,2	1	38% Reduction of volatile solids by digestion (9VAC25-32-685.B.1)	(1),(2)
1,2	2	When 38% reduction is not achieved by anaerobic digestion, 40 day bench study at temperatures between 30°C and 37°C to demonstrate further reduction of volatile solids <17% (9VAC25-32-685.B.2)	(1),(2)
1,2	3	When 38% reduction is not achieved by aerobic digestion, 30 day bench study at 20°C to demonstrate further reduction of volatile solids <15% (9VAC25-32-685.B.3)	(1),(2)
1,2	4	Specific Oxygen Uptake Rate of ≤ 1.5 mg O ₂ /hour/gram total solids at 20°C (aerobically processed sludge) (9VAC25-32-685.B.4)	(1),(2)
1,2	5	14 day aerobic process, temperatures above 40°C with an average temperature of >45°C (9VAC25-32-685.B.5)	(3)
1,2	6	Sufficient alkali is added to the sewage sludge to raise the pH of the sewage sludge to 12 S.U. or higher, and without the addition of more alkali, maintain the pH at 12 S.U. for two hours and then at 11.5 S.U. or higher for an additional 22 hours (9VAC25-32-685.B.6)	(3)
1,2	7	Where biosolids do not contain unstabilized solids from primary wastewater treatment, the percent solids of the biosolids shall be $\geq 75\%$ (9VAC25-32-685.B.7)	(1),(2)
1,2	8	Where biosolids contain unstabilized solids from primary wastewater treatment, the percent solids of the biosolids shall be $\geq 90\%$ (9VAC25-32-685.B.8)	(1),(2)
1,2	9	Sewage sludge shall be injected below the surface of the land (9VAC25-32-685.B.9)	NA
1,2	10	Sewage sludge shall be incorporated into the soil within 6 hours after application (9VAC25-32-685.B.10)	NA

NA = Not applicable

- (1) See the Frequency of Monitoring table included in this appendix.
- (2) Between sampling events, operating records must demonstrate that the WWTP is operating at a performance level known to meet the VAR standards.
- (3) Process monitoring must be sufficient to demonstrate compliance with VAR treatment requirements.

Bases for Requirements

1. VPA Permit Regulation (9VAC25-32)
2. Environmental Regulations and Technology - Control of Pathogens and Vector Attraction Reduction in Sewage Sludge (EPA/625/R-92/013)

Fact Sheet – VPA Permit No. VPA01078 – Recyc Systems, Inc - Southampton

Biosolids/ WTP Residuals – Characteristics

PARAMETERS	BASIS FOR LIMITS	LIMITATIONS		MONITORING REQUIREMENTS	
		Monthly Average	Minimum and Maximum	Frequency	Sample Type
Percent Solids (%)	1	NL	NA	(1)	Composite
Volatile Solids (%)	1	NL	NA	(1)	Composite
Total Kjeldahl Nitrogen (mg/kg) ⁽²⁾	1	NL	NA	(1)	Composite
Ammonium Nitrogen (mg/kg) ⁽²⁾	1	NL	NA	(1)	Composite
Nitrate Nitrogen (mg/kg) ⁽²⁾	1	NL	NA	(1)	Composite
Total Phosphorus (mg/kg) ⁽²⁾	1	NL	NA	(1)	Composite
Total Potassium (mg/kg) ⁽²⁾	1	NL	NA	(1)	Composite
pH (S.U.)	1	NA	NL	(1)	Composite
Alkalinity as CaCO ₃ (mg/kg) (If lime by weight is less than 10%)	1	NL	NA	(1)	Composite
CCE as CaCO ₃ (%) (If lime by weight is 10% or more)	1	NL	NA	(1)	Composite

NL = No Limit, monitoring required

NA = Not applicable

(1) See Frequency of Monitoring table included in this appendix.

(2) Expressed on a dry weight basis.

Basis for Limitations

1. VPA Permit Regulation (9VAC25-32)

Fact Sheet – VPA Permit No. VPA01078 – Recyc Systems, Inc - Southampton

Biosolids/ WTP Residuals – Nutrient Concentrations, Application Rates, and Loadings

PARAMETERS	BASIS FOR LIMITS	LIMITATIONS				MONITORING	
		Concentration (Lbs/Dry Ton)	Field Application Rate	12 Month Field Loading	NMP Application Rate	Frequency	Sample Type
Biosolids/Residuals (Dry/Tons/Ac)	1	NA	(1)	(1)	(1)	Each Application	Calculated
Plant Available Nitrogen (PAN) (Lbs/Ac)	1	NL	(1)	(1)	(1)	Each Application	Calculated
Phosphate (P ₂ O ₅) (Lbs/Ac)	1	NL	(1)	(1)	(1)	Each Application	Calculated
K ₂ O (Lbs/Ac)	1	NL	(2)	(2)	(3)	(2,3)	Calculated
CaCO ₃ (Lbs/Ac)	1	NL	(4)	(4)	(5)	(4,5)	Calculated

NL = No Limit, monitoring required

NA = Not applicable

- (1) The field application rate and 12 month field loading shall not exceed the application rate specified in the nutrient management plan (NMP) for the application method used.
- (2) Report the amount of K₂O provided by the biosolids/residuals and supplemental K₂O applied for each application where the soil test K is < 38 ppm Mehlich I.
- (3) Report the K₂O application rate recommended in the NMP for each application where the soil test K is < 38 ppm Mehlich I.
- (4) Report the amount of CaCO₃ provided by the biosolids/residuals and supplemental CaCO₃ applied for each application where the soil test pH is < 5.5 S.U.
- (5) Report the CaCO₃ application rate recommended in the NMP for each application where the soil test pH is < 5.5 S.U.

Basis for Limitations

1. VPA Permit Regulation (9VAC25-32)

Fact Sheet – VPA Permit No. VPA01078 – Recyc Systems, Inc - Southampton

Soil Limitations & Monitoring

PARAMETERS ⁽¹⁾	BASIS FOR LIMITS	LIMITATIONS ⁽²⁾⁽³⁾	MONITORING REQUIREMENTS	
			Frequency ⁽⁴⁾	Sample Type
Soil pH (S.U.)	1	NL	Prior to Biosolids Application ***	Composite
Available Phosphorus (Mehlich I - P)* (ppm)	1	NL	Prior to Biosolids Application	Composite
Extractable Potassium (Mehlich I - K)**(ppm)	1	NL	Prior to Biosolids Application	Composite
Extractable Calcium (mg/100 g)	1	NL	Prior to Biosolids Application	Composite
Extractable Magnesium (mg/100 g)	1	NL	Prior to Biosolids Application	Composite
Zinc (mg/kg)	1	NL	Prior to Biosolids Application	Composite
Manganese (mg/kg)	1	NL	Prior to Biosolids Application	Composite

NL = No Limit, monitoring required

* Available Phosphorus shall be analyzed using Mehlich I or Mehlich III analytical procedure. If sample is analyzed using Mehlich III, results shall be converted to Mehlich I for reporting purposes.

** Extractable Potassium shall be analyzed using Mehlich I analytical procedure or equivalent. If sample is analyzed using an equivalent procedure, results shall be converted to Mehlich I for reporting purposes.

*** For biosolids with a cadmium concentration greater than or equal to 21 mg/kg the soil pH sample must be less than 1 year old.

- (1) Soil samples shall be collected and analyzed in accordance with regulations promulgated under § 10.1-104.2 of the Code of Virginia and as outlined in the Biosolids Management Plan (BSMP).
- (2) All parameters except for pH shall be monitored on a dry weight basis.
- (3) Results of the soil monitoring specified above shall be used to develop the NMP.
- (4) No sample analysis used to determine application rates shall be more than 3 years old at the time of the biosolids land application.

Basis for Limitations

1. VPA Permit Regulation (9VAC25-32)

Frequency of Monitoring

Amount of bulk biosolids from that source applied to the land (dry tons per 365-day period)	BASIS FOR LIMITS	Frequency
Greater than zero but less than 320	1,2	Once per year
Equal to or greater than 320 but less than 1,653	1,2	Once per quarter (four times per year)
Equal to or greater than 1,653 but less than 16,535	1,2	Once per 60 days (six times per year)
Equal to or greater than 16,535	1,2	Per month (12 times per year)

WTP residuals shall be monitored once per year.

Bases for Monitoring Frequency

1. VPA Permit Regulation (9VAC25-32)
2. GM No. 95-002 (VPA Land Application of Water Treatment Plant Residuals)

APPENDIX B

PERMIT CHANGES AND BASES FOR SPECIAL CONDITIONS

Tabulated below are the sections of the permit, with any changes and the reasons for the changes identified. Also provided is the basis for each of the permit special conditions.

Special Condition	Description and Basis for Special Condition
Cover Page	<ul style="list-style-type: none"> Content and format as prescribed by the VPA Permit Manual. The owner address was removed.
Part I.A.1.a	Metals Limitations & Monitoring: <i>Updates previous permit.</i> Bases for limits and monitoring requirements provided in Appendix A of this fact sheet.
Part I.A.1.b	CPLR Metals Limitations & Monitoring: <i>Updates previous permit.</i> Bases for limits and monitoring requirements provided in Appendix A of this fact sheet.
Part I.A.1.c	Pathogen Reduction Requirements: <i>Updates previous permit.</i> Bases for requirements provided in Appendix A of this fact sheet.
Part I.A.1.d	Vector Attraction Reduction Requirements: <i>Updates previous permit.</i> Bases for requirements provided in Appendix A of this fact sheet.
Part I.A.1.e	Characteristics: <i>Updates previous permit.</i> Bases for requirements provided in Appendix A of this fact sheet.
Part I.A.1.f	Nutrient Concentrations, Application Rates, and Loadings: <i>New requirement.</i> Bases for requirements provided in Appendix A of this fact sheet.
Part I.A.2	Soil Limitations and Monitoring Requirements: <i>Updates previous permit.</i> Bases for soil limitations and monitoring requirements are provided in Appendix A of this fact sheet.
Part I.A.3	Frequency of Monitoring: <i>Updates previous permit.</i> Bases for requirements provided in Appendix A of this fact sheet.
Part I.B.1	Monthly Reporting: <i>Updates previous permit.</i> 9VAC25-32-360.A and the Fee Regulation 9VAC25-20-147.B require submittal of a report by the 15 th of the month following the month in which land application occurred. 9VAC25-32-100.B.2 provides for DEQ to establish the reporting frequency based on the pollutant management activity.
Part I.B.1.a	Biosolids/WTP Residuals Monitoring Data: <i>Updates previous permit.</i> 9VAC25-32-80.I states that monitoring results shall be reported at the intervals specified in the applicable VPA permit in a format acceptable to the board. 9VAC25-32-100.B.1. – 2 provide for the VPA permit to require monitoring at a frequency sufficient to yield data representative of the activity and report at a frequency based on the pollutant management activity. 9VAC25-32-100.B.3. states that VPA permits may include mass or other measurements for each pollutant of concern, as well as volume and other measures as appropriate.
Part I.B.1.b	Generator NANI: <i>New Requirement.</i> 9VAC25-32-313.G requires the generator of biosolids/WTP residuals who provides biosolids to a land applier, to give notice and necessary information to the land applier.
Part I.B.1.c	Monthly Land Application Activity: <i>Updates previous permit.</i> 9VAC25-32-360.A and the Fee Regulation 9VAC25-20-147.B require submittal of a report by the 15 th of the month following the month in which land application occurred. Specific information to be provided is identified in 9VAC25-20-147.A and B. 9VAC25-32-360 refers to maintaining a report and adequate records on biosolids/WTP residuals application rates, and methods of application for each site.

Fact Sheet – VPA Permit No. VPA01078 – Recyc Systems, Inc - Southampton

Part I.B.1.d	Electronic Submittal Attestation Statement: <i>New Requirement.</i> § 59.1-479 – 498, the Uniform Electronic Transactions Act provides for submission of paperwork electronically and the use of electronic signatures. No laws or regulations require hard copy submittal of original signatures in the VPA program.
Part I.B.2	Biosolids Land Application Fee: <i>Updates previous permit.</i> § 62.1-44.19.3.P requires that a fee be charged to the generator of biosolids to be land applied in Virginia. The fee of \$7.50/dry ton of biosolids applied in the Commonwealth of Virginia is established by the Fee Regulation 9VAC25-20-146 and 9VAC25-20-40.A.3. Exemptions to the fee are provided in 9VAC25-20-50.C. 9VAC 20-60.D establishes the due date.
Part I.B.3	Annual Report: <i>Updates previous permit.</i> 9VAC25-32-360.B requires the submittal of an annual report postmarked by February 19 for the previous year. 9VAC25-32-100.B.3 provides for the VPA permit to require monitoring the volume of biosolids/WTP residuals and other measurements as appropriate. 9VAC25-32-360.C requires reports be maintained verifying that sludge treatment for pathogen and vector attraction reduction be maintained by the generator and owner (of the permit). 9VAC25-32-80.G requires the permittee to submit information requested by the board, within a reasonable time, to determine compliance with the permit.
Part I.C.1	Records Retention: <i>Updates previous permit.</i> 9VAC25-32-80.H.2 specifies that all records of biosolids/WTP residuals activities, monitoring and reporting shall be maintained for at least 5 years.
Part I.C.2	PC - Class B Biosolids/WTP Residuals Recordkeeping: <i>Updates previous permit.</i> 9VAC25-32-359 provides specific recordkeeping requirements for PC and CPLR biosolids/WTP residuals.
Part I.C.3	CPLR - Class B Biosolids/WTP Residuals Recordkeeping: <i>Updates previous permit.</i> 9VAC25-32-359 provides specific recordkeeping requirements for PC and CPLR biosolids/WTP residuals.
Part I.D.1	Biosolids/Residuals Management Plan (BRMP): <i>New Requirement.</i> 9VAC25-32-410 requires the permit holder to maintain and implement a BRMP consisting of permit application, NMPs, and O&M Manual and states that the BRMP is an enforceable part of the permit.
Part I.D.2	Nutrient Management Plan (NMP) Requirement: <i>Updates previous permit.</i> § 62.1-44.19.3.C.8 requires that a NMP be developed by a person certified in accordance with § 10.1-104.2 for each biosolids/WTP residuals land application site, prior to application of biosolids at the site. The statute also establishes conditions where the NMP must be approved by the Department of Conservation and Recreation prior to submittal at the time of permit application. 9VAC25-32-410.C.2 states that if conditions at the site change so that it meets one or more special conditions, the NMP will be approved prior to application at the site. 9VAC25-32-410.C.2, with which all biosolids/WTP residuals operations must comply, requires that the NMP be submitted to the farmer/operator of the site, the Department of Conservation and Recreation, and the local government, unless requested in writing to not receive the NMP. 9VAC25-32-410.C.5, Table 1 requires the NMP to be approved by DCR prior to application based on soil phosphorus levels (Mehlich I).
Part I.D.3	Operation and Maintenance (O&M) Manual Requirement: <i>Updates previous permit.</i> 9VAC25-32-410.D and 9VAC25-790-260 – 300 identify minimum requirements to be included in an O&M Manual. Additional requirements are included in the BRMP, 9VAC25-32-60.F.3.
Part I.D.4	Odor Control Plan (OCP) Requirement: <i>Updates previous permit.</i> 9VAC25-32.60.F.1 requires Generator's OCP and minimum content. 9VAC25-32.60.F.5.c requires Land Applier's OCP and minimum content.

Fact Sheet – VPA Permit No. VPA01078 – Recyc Systems, Inc - Southampton

Part I.D.5	Permittee Source List - Biosolids/WTP Residuals: <i>Updates previous permit.</i> 9VAC25-32-305.D states <i>no</i> person shall land apply, market, or distribute biosolids/WTP residuals in Virginia unless the biosolids/WTP residuals source has been approved by the board. 9VAC25-32-60.F.1 requires that a list of sources that the permittee proposes to land apply in the permit application, which is part of the BSMP. Water Control Law and the VPA Permit Regulation do not require a permit modification to add a new source; therefore a source that is approved may be added to the Permittee Source List with administrative authorization. A source not previously or currently approved, must obtain approval before it can be land applied under a VPA permit.
Part I.E.1	100 Day Notification: <i>Updates previous permit.</i> 9VAC25-32-515.A.1 requires written notification to the chief executive officer (CEO) or designee for the locality 100 days prior to the initial land application at a specific site and clarifies that the notice may be satisfied by DEQ's notice of the permit application, if necessary site information was provided in that notification.
Part I.E.2	14 Day Notification: <i>Updates previous permit.</i> § 62.1-44.19.3.L and 9VAC25-32-515.A.2 requires written notification to the department and the CEO or designee for the locality at least 14 days prior to land application at a specific site.
Part I.E.3	Signage Posting: <i>Updates previous permit.</i> 9VAC25-32-515.B.1 requires a sign be posted at a land application site at least 5 business days prior to delivery of biosolids/WTP residuals at the site and maintained on site until 5 business days after application is complete; the sign will not be removed until 30 days after land application is complete. 9VAC25-32-515.B.1.a. – b. addresses placement of the signs. 9VAC25-32-515.B.3. – 4 specify construction, content, and maintenance of the sign.
Part I.E.4	Notification of Sign Posting: <i>New Requirement.</i> 9VAC25-32-515.B.2 requires written notification to DEQ and the CEO or designee for the locality within 24 hours of posting, identifying where the signs have been posted, and identifies information required in the notice.
Part I.E.5	24 Hour Notification: <i>New Requirement.</i> 9VAC25-32-515.A.3 requires written notice to DEQ and the CEO or designee for the locality no more than 24 hours prior to commencing activity at a site, including delivery. The notification shall include the source of material and only sites where land application activities or staging will commence within 24 hours.
Part I.E.6	Site Operator Notification and Information: <i>New Requirement.</i> 9VAC25-32-313.I states “The person who applies bulk biosolids to the land shall provide the owner or lease holder of the land on which the bulk biosolids is applied notice and necessary information to comply with the requirements in this article.”
Part I.E.7	Handling of Complaints: <i>New Requirement.</i> 9VAC25-32-515.C provides specific requirements for the permittee upon receiving a complaint, including investigation of said complaint and notification to DEQ, the local government and the owner of the wastewater treatment facility from which the biosolids/WTP residuals originated within 24 hrs of receiving a substantive complaint. The section goes on to define substantive complaint as any complaint alleging a violation of these regulations, state law, or local ordinance; a release of biosolids/WTP residuals to state waters or to a public right-of-way or to any location not authorized in the permit; or failure to comply with the nutrient management plan for the land application site.
Part I.F.1 – 5	TRANSPORT Requirements: <i>Updates previous permit.</i> 9VAC25-32-540.A – E identify requirements for transport routes, vehicles, prevention of drag-out and track-out, clean-up of such drag-out and track-out and clean-up and reporting of spills.
Part I.G.1 – 11	STAGING Requirements: <i>Updates previous permit.</i> 9VAC25-32-545.A – B define staging and provides procedural requirements for staging up to 7 days and daily inspections by certified land applier; procedural and notification requirements to be implemented if biosolids cannot be applied

Fact Sheet – VPA Permit No. VPA01078 – Recyc Systems, Inc - Southampton

	by the end of the 7 th day; and prohibits overnight staging in areas of Karst, areas identified by U.S. Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS) as frequently flooded, and sites with on-site storage.
Part I.H.1 – 2	ON-SITE STORAGE Requirements: <i>Updates previous permit.</i> 9VAC25-32-550.D.1, 3 - 10 describe on-site storage and provides procedural requirements for staging up to 45 days, routine inspections by certified land applier; procedural and notification requirements; 9VAC25-32-550.D specifies on-site storage shall take place on a constructed surface at a location preapproved by DEQ and that biosolids stored on the site shall be land applied only at sites under control of the owner/operator of the site where the on-site storage is located; 9VAC25-32-550.C and D.2, 6 specify permeability requirements for the pad and requires existing storage facilities to come into compliance with the amended regulation by September 1, 2014.
Part I.I.1	Infrequent Application: <i>Updates previous permit.</i> 9VAC25-32-560.B.3.c establishes infrequent application based on total crop needs for nitrogen.
Part I.I.2	Depth to Bedrock or Restrictive Layers: <i>Updates previous permit.</i> 9VAC25-32-560.B.2.a states depth to bedrock or restrictive layers shall be a minimum of 18 inches.
Part I.I.3	Depth to Groundwater: <i>Updates previous permit.</i> 9VAC25-32-560.B.2.b prohibits land application when seasonal high water table is within 18" of ground surface and requires use of USDA-NRCS soil survey maps and soil borings to verify groundwater depth.
Part I.I.4	pH Management: <i>Updates previous permit.</i> 9VAC25-32-560.B.2.c requires the biosolids soil mixture have a pH of 6.0 S.U. or higher where cadmium in the biosolids/WTP residuals is ≥ 21 mg/kg. 9VAC25-32-560.B.2.d requires the addition of lime or use of lime amended biosolids/WTP residuals if soil pH is < 5.5 S.U.
Part I.I.5	Soil Potassium < 38 ppm: <i>New Requirement.</i> 9VAC25-32-560.B.2.e requires addition of potash prior to or concurrently with the biosolids/WTP residuals if the soil potassium (Mehlich I) is < 38 ppm.
Part I.I.6	Equipment Calibration: <i>New Requirement.</i> 9VAC25-32-560.B.3.d.(1) requires routine measurement of the field application rate of application equipment.
Part I.I.7	Liquid Biosolids/WTP Residuals: <i>Updates previous permit.</i> 9VAC25-32-560.B.3.d.(1) limits application of liquid biosolids/WTP residuals to 14,000 gallons per acre, per application with drying time between applications.
Part I.I.8	Grass Height: <i>New Requirement.</i> 9VAC25-32-560.B.3.d.(1) requires hay and pasture to be grazed or clipped to approximately 6 inches prior to biosolids application.
Part I.I.9	Uniform Application: <i>New Requirement.</i> 9VAC25-32-560.B.3.d.(1) requires a uniform application of biosolids on a field. If application is not uniform additional operational methods are required followed by clipping.
Part I.I.10	Odor Control by Incorporation: <i>New Requirement.</i> 9VAC25-32-560.B.3.d.(2) allows DEQ or the local monitor to require incorporation, when practical or compatible with a soil conservation plan, to mitigate malodor.
Part I.I.11	Slope Restrictions: <i>Updates previous permit.</i> 9VAC25-32-560.B.3.d.(3) prohibits application on slopes $> 15\%$, but allows the restriction to be waived by DEQ for the establishment and maintenance of perennial vegetation or based on BMPs.
Part I.I.12	Snow Covered Ground: <i>Updates previous permit.</i> 9VAC25-32-560.B.3.d.(5) allows land application of biosolids on snow cover that is 1 inch or less in depth and the snow and biosolids are incorporated within 24 hours. If the snow melts with application, incorporation is not required.

Fact Sheet – VPA Permit No. VPA01078 – Recyc Systems, Inc - Southampton

Part I.I.13	Setbacks: <i>Updates previous permit.</i> 9VAC25-32-560.B.3.e.(1) – (4) establishes setback distances and procedures for extending or waiving residential and property line setbacks.
Part I.I.14	Site Access Restrictions: <i>Updates previous permit.</i> 9VAC25-32-675.B.5 establishes access restrictions for sites where Class B biosolids have been land applied.
Part I.I.15	Forestland (Silviculture): <i>New Requirement.</i> 9VAC25-32-560.C establishes requirements for land application on silvicultural sites.
Part I.I.16	CPLR Biosolids: <i>Updates previous permit.</i> 9VAC25-32-313.F establishes criteria for determining the need to track the metals loadings on individual sites where metals subject to the cumulative pollutant loading rates have been applied.
Part I.J.1	Biosolids/WTP Residuals Sources: <i>Updates previous permit.</i> 9VAC25-32-305.D states that no person shall land apply, market or distribute biosolids/WTP residuals in Virginia unless the biosolids source has been approved by the board.
Part I.J.2	Land Application Sites: <i>Updates previous permit.</i> 9VAC25-32-305.C states that no person shall land apply Class B biosolids on any land in Virginia unless that land has been identified in an application to issue, reissue or modify a permit and approved by the board.
Part I.J.3	Pollution Liability and General Liability Requirement: <i>New Requirement.</i> 9VAC25-32-780 establishes liability requirements. 9VAC25-32-790 – 850 provides specific requirements for each type of liability demonstration.
Part I.J.4	Alteration of Biosolids Composition: <i>New Requirement.</i> 9VAC25-32-560.A.2 prohibits the alteration of the biosolids composition at the land application site.
Part I.J.5	Site Specific Application Rates: <i>Updates previous permit.</i> 9VAC25-32-560 states site specific application rates shall not exceed the rates established in the nutrient management plan nor result in exceedance of the cumulative trace element loading rates specified in 9VAC25-32-356 Table 3.
Part I.J.6	Landowner Consent: <i>Updates previous permit.</i> 9VAC25-32-60.D.4 requires the submission of landowner consent forms with the permit application 9VAC25-32-530.B.2.requires the written agreement between the permittee and the landowner, specifies required information and use of the most current form approved by the board. 9VAC25-32-530.A. requires the permittee to maintain the agreement.
Part I.J.7	Threatened and Endangered Species Protection: <i>Updates previous permit.</i> 9VAC25-32-313.B states no one shall apply bulk biosolids to the land if it is likely to adversely affect a threatened or endangered species listed in 9VAC25-260-320 or § 4 of the Endangered Species Act (16 USC § 1533) or if the land application is likely to adversely affect its designated critical habitat.
Part I.J.8	Certified Land Applicator Requirement: <i>Updates previous permit.</i> § 62.1-44.19.3.1.B states that Class B biosolids shall not be land applied unless a certified land applicator is onsite at all times during the application. 9VAC25-32-690 requires the land applier to maintain a field log and identifies minimum requirements and sign monthly reports, attesting that they were onsite at all times reported.
Part I.J.9	Reopener: <i>Updates previous permit.</i> 9VAC25-32-220 allows a permit to be opened when a change is made in the promulgated standards or regulations on which the VPA permit was based.
Part I.J.10	Stormwater Discharge Exception: <i>Identical to previous permit.</i> 9VAC25-32-30.A states that all pollutant management activities covered under a VPA permit shall maintain no point source discharge of pollutants to surface waters except in the case of a storm event greater than the 25-year, 24-hour storm.

Fact Sheet – VPA Permit No. VPA01078 – Recyc Systems, Inc - Southampton

Part I.J.11	Materials Handling/Storage: <i>Identical to previous permit.</i> 9VAC25-32-30.B states that except in compliance with the VPA or another permit issued by the board that it is unlawful to discharge into, or adjacent to, state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances.
Attachment A	<i>Updates Attachment A of the previous permit.</i> 9VAC25-32-530.B.1 establishes requirements for land application sites to be assigned unique control numbers by DEQ.
Part II	Conditions Applicable to All VPDES Permits: <i>Updates previous permit.</i> VPA Permit Regulation 9VAC25-32-80 requires all VPA permits to contain or specifically cite the conditions listed.
Deletions	Compliance with VPA Biosolids Program special condition of the previous permit was removed at this modification because the modified permit addresses the requirements of the VPA Permit Regulation.